

REMARKS/ARGUMENTS

The subject matter of claims 14 and 15 has been incorporated in independent claims 1 and 4 in an effort to distinguish clearly over the patents held against these claims under 35 U.S.C. 103(a).

The claimed invention relates to a cathode ray tube panel glass. Such a panel glass is required to prevent coloring called browning from occurring irradiation of the electron beams, the X-rays, and the ultraviolet rays which are produced upon projecting the video images. Moreover, it is also required for the panel glass of this type to have a high X-ray absorption coefficient.

In order to satisfy these requirements, such a conventional panel glass contains 0.1% or more  $\text{TiO}_2$  to prevent coloring by irradiation of the ultraviolet rays and to raise the X-ray absorption coefficient. In addition, the conventional panel glass contains no substantial amounts of  $\text{PbO}$  to prevent coloring by irradiation of the electron beams and the X-rays. Furthermore,  $\text{SrO}$ ,  $\text{BaO}$ ,  $\text{ZrO}_2$  and other components are contained instead of  $\text{PbO}$  in a sufficient amount to raise the X-ray absorption coefficient. However, if these amounts are too high, devitrifying stones resulting from these

ingredients will deposit or precipitate.

Taking the above into consideration, claims 1 and 4 provide a CRT panel glass which substantially avoids generation of devitrifying stones resulting from the above-mentioned ingredients which raise the X-ray absorption coefficient. More particularly, the claimed panel glass contains, in mass percent, 9-9.5 %  $\text{SrO}$ , 8.5-9 %  $\text{BaO}$ , 0.1-2.5 %  $\text{ZrO}_2$  to thereby suppress precipitation of the devitrifying stones resulting from the ingredients which raises an X-ray absorption coefficient. In addition, in the claimed panel glass, the components are rigidly limited, in mass percent, so that  $\text{SrO}/(\text{SrO}+\text{BaO})$  is 0.50-0.53. With these limitations, a remarkable effect is produced in suppressing production of the devitrifying stones, such as strontium silicate and barium disilicate, which are produced due to  $\text{SrO}$  or  $\text{BaO}$ .

In contrast, the cited Steierman patent does not disclose or teach that the glass contains  $\text{ZrO}_2$  and  $\text{TiO}_2$ , as recited in claims 1 and 4. Herein,  $\text{ZrO}_2$  serves to raise the X-ray absorption coefficient,  $\text{TiO}_2$  serving to prevent the coloring of the panel glass by the ultraviolet rays.

As regards the Yanagisawa et al and Petersen et al patents, combined with Steierman by the Examiner, the following

is noted:

Both patents refer to a funnel glass or ceramic material for a cathode ray tube while applicants and the primary reference deal with a glass for a cathode ray tube. These glasses have different requirements and those of ordinary skill in the art would not find it obvious to combine the individual teachings found in the arts of making CRT panel glasses funnel glasses for CRT tubes.

To prevent the coloring called browning of a CRT glass panel, it must not contain substantial amounts of PbO, as claimed herein. In contrast to this, the funnel glass of Yanagisawa et al contains at least 5% PbO. Furthermore, they do not suggest that the production of devitrifying stones resulting from the SrO and BaO components in the glass can be suppressed if  $\text{SrO}/(\text{SrO} + \text{BaO})$  is limited to 0.50-0.53. Like comments apply to Petersen et al. Their composition is unlike that recited in claims 1 and 4.

In view of the above, claims 1 and 4 are respectfully submitted to be patentable, and the dependent claims are believed to be allowable therewith.

A sincere effort having been made to overcome all grounds

of rejection, favorable reconsideration and allowance of claims  
1-13 and 16-19 are respectfully solicited.

Respectfully submitted,

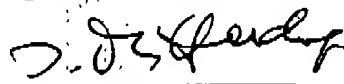
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